2: Fortes E-5 (1934-1937) 1945
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other non-Namoos. It is recognized by all Tallensi that these taboos are on a par with the fowl taboo of the Namoos, though they have, in many respects, a more complex meaning. Among both groups of clans, no doubt because totemic taboos are so clear-cut and categorical, it is considered unthinkable for an adult in full command of his faculties to violate (*galəm*) a totemic taboo deliberately. The sanctions for an accidental breach are the same in both groups, but this is an extremely rare occurrence. It is enough to see the spontaneous repugnance of small children to unaccustomed or forbidden food to understand why they keep totemic taboos so conscientiously. A man never allows a prohibited animal into his house; and women married to men who may eat animals forbidden to themselves take scrupulous care to avoid a possible lapse. His totemic taboos appear to the individual as a simple, unequivocal moral precept.

Talis state their totemic avoidances in the form: 'We do not eat (*ti pu ɔbət*) or we taboo (*kih*) such and such an animal', meaning a particular species of animal. They explain that these avoidances are obligatory on a person through the fact of his being born a member of a certain maximal lineage; they are obligatory on both men and women from birth to death. Hence the wives of Talis have to refrain from eating animals prohibited to their husbands, though not to their own maximal lineages, when they have infants at the breast, or, in some clans, throughout their child-bearing period. For, as the natives explain, 'Food changes into milk', and the infant would be committing a sin indirectly. This problem does not arise amongst the Namoos, since all Tale women avoid eating the domestic fowl from the beginning of pubescence onwards. It is one of several food taboos observed by women with the utmost strictness, not for ritual reasons but purely as a matter of feminine propriety.

As with the Namoos, Talis totems and the totems of their congeners in the Sie area, are mythically validated, as we shall see presently. But like Namoos, Talis never express awe or reverence for a clan or lineage totem animal. It is an ordinary, commonplace creature devoid of anything in the nature of a halo of sacredness. They do not, for example, call a totem a sacred object (*bayər*). The emphasis is on the avoidance, the act of conduct as such. There is a notion of moral obligation in keeping the avoidance, but it is directed, as we shall see, to the ancestors and not to the totem animal in its own right.

Talis are not forbidden to kill an animal which is their totemic avoidance, though they would not wantonly do so. They may, and often do, catch these animals alive and sell them to people who are permitted to eat them; for many of these totem animals are considered to be great delicacies.

In one respect, however, the totemic avoidances of the Talis and their congeners differ from the fowl taboo of the Namoos. The former swear an oath by their totems, whereas the Namoos never invoke the fowl in this way. Like the Namoos, Talis can swear by the loin cover they put on their dead. The formula is the same as for the Namoos, with the substitution of the name of the animal whose skin is used: 'By my father and his sheep (or oribi) and his three cowrie shells.' This is a solemn oath, uttered in response to a serious accusation, in proof of one's innocence,

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speak only of the Voltaic area, the animal species referred to above occur among the totemic avoidances of people as remote from the Tallensi, both spatially and linguistically, as the Isala and the Lobi,[1] as well as among all the other 'tribes' of the area.

Confining ourselves to Taleland and to the settlements of Gorisi fringing this area, we find that the totemic avoidances include birds like the canary (*wurəg*), the turtle-dove (*daŋman*), the domestic fowl (*noo*), and several other species; reptiles, like the snake, the tortoise, the water-tortoise, and the crocodile; fish, like the *tunəg*; insects, like the large grasshopper (*saŋkaan*); rodents, like the squirrel (*sinscrəg*) and the hare (*suoŋ*); ruminants, like the goat (*buu*) and the sheep (*pɛhug*); carnivores, such as the cat (*sakoo*), the dog (*baa*), and the leopard (*yeogbaa*); and a variety of other animals, such as the monkey (*ŋmaaŋ*) and the bush-pig (*dee*).[2]

It is impossible to find any common trait amongst this variety of creatures. Some play an important part in the economic life and the food-supply of the natives, but the majority are negligible in this respect. Many are prized as delicacies by those who are permitted to eat them; and, on the other hand, some are despised as food. No adult would willingly eat grasshoppers, canaries, or small edible snakes, though little children, who eat almost any small animals they can lay their hands on, quite often do so. Several of these animal species are regarded as always potentially dangerous in the magical as well as the physical sense. Such are the crocodile, snakes, the leopard, and other wild carnivores. But many, on the contrary, are entirely innocent both in the magical and the physical sense. Some have a place in the meagre folk-lore of the Tallensi, including such diverse creatures as the monkey, the turtle-dove, and the cat. Cats, for instance, are considered to be pre-eminently the domestic companions of women, but with a streak of the wild animal in them. Women treat them with a mixture of solicitude, appropriate to a valued pet, and of pseudo-ritual respect that meets with good-humoured ridicule from the men. Incidentally, clans that have the cat as a totem show no particular respect towards household cats, nor are household dogs treated differently by people who may and people who may not eat the dog.

The totemic animals of the Tallensi thus comprise neither a zoological nor a utilitarian nor a magical class. All that can be said of them is that

[1] For the Isala and other 'tribes' of the Voltaic area, see Rattray, op. cit. His report on the Isala is in vol. ii, pp. 465 ff. For the Lobi, see ib., vol. ii, pp. 425 ff., and Labouret, op. cit., pp. 227 ff. Rattray does not distinguish clearly between the different kinds of ritual prohibitions and injunctions coupled with patrilineal descent, some of which are not totemic in the sense we have given to this term. But his observations and those of Labouret confirm the conclusion that there is no precise correlation between these avoidances and clanship ties. Labouret's account of the attitudes and values associated with totemic avoidances among the Lobi shows them to resemble closely those of the Tallensi.

[2] Rattray's list for this area, op. cit., vol. i, p. 236, includes also several big-game animals, such as the roan (*hoo*), hartebeest (*sɛbəg*), bush-cow (*yeognaaf*), and elephant (*wɔbəg*), as well as the lion (*gbiaγmər*), the hyena (*gbiŋgbɛr*), and the hippo (*ɛmər*). But here, as elsewhere in the book, Rattray appears to have lumped together ritual observances that are similar in form though not in function, and he does not state clearly what clans or settlements hold particular taboos.

3: Fortes E-5 (1934-1937) 1949
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602 interests and solidarity. This applies to women as well, if in a slightly lesser degree. Moreover, close cognates of different clans keep in touch sufficiently to know a great deal about one another's personal life.

592 In spite of this, domestic privacy is well guarded, for the essential life of the family goes on inside the homestead. There is a basis for this ●262 in the rules of residence and in the domestic economy. Residential 576 autonomy is an index of economic autonomy. A household produces almost the whole of the food-supplies it consumes. Its neighbours, however closely related they are, can guess as to the sufficiency but cannot know the exact quantity of a household's food-supplies. Only the head of the household knows this. As we have seen, a major factor of differentiation between and within domestic units is the organization of food production and consumption. One can see this any evening when the chief meal of the day is eaten. It is prepared by the women and consumed by all the members of the household producing the grain. Meals are not regularly shared between separate households, even within the same domestic unit. The correct thing is for a person to take his usual meals at home amidst his own family. Most Tallensi would starve rather than deliberately scrounge (*bimh*) a meal off a kinsman who farms separately, even if the latter lives in the same homestead. Tallensi would think it a disgrace if their children made a habit of going to feed with neighbours, as is the custom in some primitive societies. A hungry child comes to its mother for food; it will not go to a neighbouring homestead in the hope of getting something to eat.

576 The etiquette of social intercourse indicates as clearly the degree to which domestic privacy is taken for granted. A visitor always announces 574 himself at the gateway. A kinsman, neighbour, or friend calls out, 521 informally, the name of the person he wishes to see, a stranger calls out *gafarra* ('excuse me'), and waits to be asked in. At night the family is usually gathered together inside its own homestead. In fine weather, especially if the moon is bright, men, women, and children spread themselves out in the senior woman's *dendɔ̃ŋo*, relaxing after the evening meal. If it is a large family a visitor will find them sprawling at ease in what seems a completely higgledy-piggledy huddle. The infants sleep in their mothers' arms, the smaller children doze on the hard gravel floor, the older children chatter in twos and threes, the grown-ups and the young men and girls talk of the day's happenings, yarn and gossip, or play at riddles. Generally, several different conversations go on at the same time. There may be visitors, a neighbour come on some business or suitors come courting one of the girls. A visitor can be seen in entire privacy. He or she is taken into one of the rooms, and no one would be so lacking in manners as to intrude. A young man visits his sweetheart [584] thus in her own home, and is entertained by her in complete privacy. Other members of the family know all about it, of course, but the sweethearts need not fear being disturbed.

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own family. She may, as an act of grace, give some of this food to her husband or to a co-wife with whom she is on friendly terms; but she is not compelled to do so. A junior householder thus augments the food supply for his own wives and children. If he comes into possession of a large amount of grain by his own exertions he will generally make a present of a small quantity to the head of the unit to which he belongs; but, again, this is an act of goodwill, not an obligation. A kind-hearted head of a compound may occasionally present a meagre dish of grain to the wife of a younger head of a self-supporting unit, if they are obviously on the verge of starvation; otherwise, self-supporting units in the same compound never assist one another with grain, in the ordinary course of events.

There are other more incalculable means by which food is brought into the household and family. Cereals are sometimes obtained during the hunger months by women from their paternal kinsmen. A marriageable daughter, again, means a succession of suitors bringing gifts of money, guinea-fowls, and various other comestibles to her mother. Wild sources of food are fully exploited. Fruits of the shea-tree (*ta'ay: butyrospermum parkii*) save many a family from the worst straits of hunger, as does the pulp of the dawa-dawa (*doo: parkia filicordea*) pods. These trees have an enormous economic value, as will be evident later. The baobab-tree (*to'o: adansonia digitata*) has a fruit with a floury, sweetish pulp which is relished much as sweetmeats are by ourselves, and its leaves are used to make soup. It is generally found as a shade-tree outside a compound, and women readily get permission from the head of the compound to pluck the leaves. Leaves of the local elm (*nuom: celtis integrifolia*) are also used for soup.[1] Some grasses and fungi serve this purpose too, and small children, who are adepts at foraging for themselves, can often be seen out in groups collecting them.

From the table quoted above it will be seen that one man, on the average, supports himself, 1·2 women, and 1·2 children, over the age of infancy—roughly 3·4 people; but it is clear from the sociological outline given above that any such estimates hold only very approximately in view of the many supplementary sources of grain supply,

[1] We have seen elm-trees in *tyɔbaa* (sacred groves) and in the bush (where of course, any one can pluck the leaves) but not as shade trees in front of compounds.

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and also, as we shall see, the many unpredictable modes of consumption of the grain (e.g. in recompensing collective labour, *vide infra*).[1]

MEAT AND FISH. Meat (*numit*) is subject to even greater fluctuations of supply than grain owing to uncontrollable sources. Every compound possesses some live stock, if it be only a few fowls and guinea-fowls. A well-to-do compound may have a cow or two, even several cows, or a couple of donkeys, but the ordinary man usually comes into possession of these animals only in the form of bride-wealth, which will as likely as not be used immediately to pay a debt or, more rarely, to make a special and urgent sacrifice. In any case, a cow is never slaughtered specifically for food[2] by the average man. We heard of two donkeys being slaughtered in order to sell the meat by a couple of young men out for profit. This was vigorously denounced by the Chief, and was not repeated. As a rule beef is obtained from sacrifices to the ancestor spirits, always made by men of senior status, and from animals offered during funeral ceremonies, donkey-meat only from the latter offerings. The carcase is usually divided up among a large number of people in accordance with kinship status. An elder may obtain a whole leg of a bull, but he will sub-divide it among the compounds or households subordinate to him. Thus, in the long run, the share of a single household comes to a very small quantity, often only a few ounces. But nothing is wasted; the whole carcase, including all the viscera, is consumed.

Sheep and goats are owned by all but the poorest; but again, no one would wantonly slaughter an animal for food. In addition to sacrifices and funerals, there is a number of formal occasions on which one of these animals must be killed, e.g. as an act of hospitality to a mother-in-law or a very great friend. Corresponding to their lesser value and much greater abundance, sheep and goats are sacrificed in larger numbers than cows, often by men of junior status. The

[1] Mr. Lynn, *op. cit.* finds that 1 man supports 3·7 people on the average, on 2·03 acres of farmed land. In addition to the sources of error mentioned in the text, it should be noted that the simplicity of Tale agricultural technology makes it possible for quite small boys to be of occasional, if somewhat casual, assistance in the fields.

[2] The Chief of Tongo slaughtered a cow for his wives and elders at the New Year (*Daa*) Festival in 1934, the only case of the kind we came across.

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consumption of mutton, and especially of goat-meat is thus considerably greater than of beef; and often a household receives an entire leg or half a carcase as its share of a sacrifice made by some one of junior status. One or two of these animals are slaughtered for sale by professional butchers in the markets every week. The markets which we knew best were all within convenient distance of the small foreign settlements of Hausa, Yoruba, and Mossi people found here and there along the motor-road, and observation showed that they were the chief customers of the butchers. But a Talena occasionally buys a little meat—from a few ounces for 3*d.*, to a leg for 9*d.* to 1*s.*. He may do this when he wishes to make a special gift to the mother of a girl he is courting; or when his wife is confined and he wishes to bring her some strengthening food.

The dog, widely kept as a domestic scavenger, is also a sacrificial animal, though only in special circumstances and on particular occasions such as the New Year's Festival. It is regarded as a great delicacy. Game, greatly prized, is communally hunted with dogs throughout the dry season. This contribution to the larder of the majority, however, seems to be negligible, as game is scarce in the bush on the periphery of Tale-land, and the animals killed become almost entirely the perquisites of chiefs and elders. The carnivores, though regarded with disgust by the young men who take a warrior's pride in killing them, are considered a luxury by the old men. We once observed the division of the carcase of a hyena, shot by a youth, among the elders of his clan. The younger men spurned the animal as a 'filthy thing' because it digs up and devours corpses.

Fish (*zig*) is also prized as a delicate food, and there is always a small supply of dry fish available in the market throughout the dry, and part of the rainy season. The Tallensi fish the pools of the partially dry Volta River communally[1] in the dry season, but with poor success, as far as the average householder is concerned. As a rule fish is bought in the market, like meat, only for special purposes.

The innumerable food taboos, some differentiating the sexes, some of totemic significance, and very many varying from individual to

[1] These fishing expeditions are described in a paper by M. Fortes, 'Communal Fishing and Fishing Magic in the Northern Territories of the Gold Coast', to be published in the *J.R.A.I.*

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individual cannot be discussed here. Where necessary reference will be made to them later, in so far as they influence the consumption of protein foods.

For the most part, however, the meat which forms an indispensable ingredient of every well-cooked meal, is that of the guinea-fowl. The domestic fowl which is kept as universally as the guinea-fowl, cannot replace the latter since all women eschew it and all first-born children in some clans taboo it. Every compound has its chickens and guinea-fowls. Every man keeps his own; women often do so too; boys begin to breed poultry before they can use a hoe. For poultry, say the Tallensi, is the beginning of wealth. A chicken may be the cause of a quarrel between householders, in which long-standing friction comes to a head, and which leads to households breaking away from the larger unit. In the ownership of poultry, therefore, the tendencies towards the differentiation of households and individuals within the unit of food economy come to marked expression. An individual, even a small boy, can dispose of his poultry freely; the owner of a sheep or a goat, if he is a junior member of a self-supporting unit, would have to inform the head of his unit before selling it, though the proceeds are his own; and all cattle, though nominally owned absolutely by the head of the joint family, can be disposed of only by the common consent of the senior members of that group. Thus the guinea-fowls which find their way into the cooking-pot are obtained not from the head of the unit of food economy, but by each housewife from her husband or by her own efforts. Guinea-fowls are slaughtered specifically for the pot, fowls never. Both kinds of birds are the commonest sacrificial animals, and a guinea-fowl the commonest gift to a woman. Hence the number of birds one sees at a compound is no criterion of the amount of poultry-meat consumed there—the less so as the Tallensi are reluctant to sacrifice their own birds, but prefer to purchase birds for this purpose.[1]

The Tallensi are not particularly discriminating in their choice of meat. Domestic animals dying of disease are eaten to the last shred. At the height of the ritual season cows are often slaughtered and left to lie in the broiling sun for two days before time is found to skin them.

[1] Guinea-fowls sell at 1½*d.* to 6*d.*, chickens at 1*d.* to 9*d.* (depending upon size and the season).

The meat, already putrescent, is nevertheless enjoyed despite its stench. 262 ●
Fresh eggs, being potential chickens, are never eaten; but addled eggs are much appreciated by children, who bake them in ashes. Children also eat field and domestic mice, a species of toad, and harmless snakes, all of which they shoot with miniature bows and arrows [224 in the later months of the dry season. These things are despised by 857] adolescents and adults who, however, appreciate bigger rodents like moles and water voles. In short, meat supplies are a matter of chance, vary greatly with the season, as will be clearer later, and though much desired, form but a small part of the bulk of food consumed.

Fats and Seasonings. Fats and seasonings have a very important 262
place in Tale cookery, and, like vegetables, are the woman's respon- 263
sibility. But they are mainly market commodities and a man will 252
frequently give his wife money to purchase them. The only fat used is shea butter (*kpaam*). It is obtainable all the year round. It is made of the nuts of the shea fruit (*kpi*) which are carefully preserved after the fruits have been eaten.

Dawa-dawa seed balls (*kpɔlug*) are made by boiling the seeds of the dawa-dawa fruits. The balls are sold at prices varying from a tenth of a penny for one the size of a large marble to threepence for one the size of a cricket ball.

The laborious processes of manufacture involved prevent many women from making their own shea-butter and dawa-dawa seed balls. Others, who can command the assistance, e.g. of daughters, often prepare enough to have a surplus for sale.

Red pepper (*nanzuuh*) is grown in small quantities by a few men for sale in the market, and much is imported. It is sold at about a halfpenny for a handful.

Rock salt (*yaarum*) is sold in the market by regular traders who fetch it from the south, a small heap (about ½lb.) for a halfpenny.

Ziem, the ash of valley grasses, and *bakaa*, the ash of early millet stalks, are prepared by the women and are stored in large baskets or calabashes for their own use and for sale. They are used as salt substitutes.

The Productive Cycle and the Food Cycle. We have seen how 596
the domestic organization of the Tallensi works in relation to the supply of grain and the other main raw materials of their diet. We

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596 must now consider how these raw materials are consumed by the unit of food economy. It will be impossible in the scope of this paper to discuss every social situation affecting the domestic economy of food, since there is hardly a social act in which something edible or masticable does not participate, be it only a piece of kola-nut or a plug of tobacco. We shall refer briefly, therefore, to the most conspicuous types of situations in which food plays a part, and discuss more fully the domestic consumption of food in the ordinary routine of family life. We emphasize again that our purpose is to give an ethnographic account of these facts, as we have been able to observe them in a single year. We have not the quantitative information to allow us to venture upon a deeper sociological analysis.

262 433 241 Tale food economy has a marked seasonal periodicity, as is to be expected in an agricultural society. It is this seasonal rhythm which links the supply of foodstuffs with their distribution and consumption. This correlation emerges readily from a calendrical tabulation in which the agricultural and other productive activities are set down side by side with the facts pertaining to the utilization of the food supply. Agriculture in Tale-land is a hazardous enterprise, chiefly because of the uncontrollable natural phenomena upon which a successful crop depends, above all, the correct distribution of rainfall. Good harvests and bad harvests succeed one another erratically and the natives can never predict from one year to the next. Their primitive methods of farming, too, mean that they extract only half as much out of the land as it is capable of producing. 'Nevertheless,' says Mr. Lynn,[1] 'in a good season . . . nobody is short of food. The area of land cultivated is adequate and the system of farming is successful.' But the margin of security for the average householder is extremely small, at any time. We have no means of estimating how representative the observations made by us in 1934 may be; the natives considered it to be a fair year. For our purpose, however, it chanced fortunately, since we were able to observe more easily the relations between supply and consumption of foodstuffs in the average household than might have been possible in either a very good or a very bad year.

[1] *Op. cit.* Mr. Lynn records that in both 1930 and 1931 the harvest was bad owing to locusts and adverse rains. In 1934 the neighbouring areas were worse off than Tale-land.

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The climate of the Northern Territories of the Gold Coast has two well-marked seasons, a rainy season (*seug*) and a dry season (*uun*). The rainy season is the period of intense agricultural activity and lasts from April to October; the dry season, when agriculture sinks into the background of social interest, from November to March. We shall set out the cycle of agricultural and food economy month by month, beginning with April, the first month of the rains.[1]

PRODUCTIVE CYCLE	FOOD CYCLE
APRIL: First planting-rain fell on March 26, and early millet (*naara*) with some cow-peas and *neri* was planted in the valley settlements. Rain again in mid-April enabled most people to plant early millet, &c. Women sowed their vegetable patches; *naggena*, *hibiscus* (*ma'ana*, *bet* and *beris*), marrow (*wok*—planted by only a few women) and other vegetables. Hoeing begun; but not more than one day in three devoted to agriculture. Communal fishing expeditions.	Food stores very low in average households and being rationed. Many dependent upon supplementary sources of supply. People buying grain abroad for re-sale. Ample food supplies in market and many buying grain. Market-prices average. Children gleaning ground-nuts.[2] Wild fruits—shea (*taamr*), *ximenia americana* (*liey*) and especially dawa-dawa powder (*dobugm*)—being consumed to stave off hunger.[3]

[1] The Tallensi have a lunar calendar, but we are following the European calendar to simplify the exposition. All dates given refer to 1934.

[2] Ground-nut gleaning (*syuuk*) is a regular pursuit of children, adolescents, and even adults of households with small supplies of ground-nuts. After the ground-nuts have been lifted any one may come and scratch with a hoe for those left in the ground. Thus little groups of boys and girls, from infancy to adolescence, wander about in the fields near their homes scratching with old hoes for the ground-nuts, which they collect and eat. Early in the dry season these ground-nuts are regarded as snacks. When the dry season reaches its end, however, they become scarcer but are searched for more eagerly as a measure to stop the pangs of hunger between one meal and the next, often twenty-four hours later.

[3] Shea fruits are collected by the women throughout this season, mainly from trees on bush farms belonging to their compound. Dawa-dawa powder is more difficult to come by as the trees are jealously watched by the owners, who are in some areas the chiefs *ex-officio* and in others heads of lineages. Dawa-dawa pods are thus often obtained by gift, purchase, or exchange from the owners, or in the market. Every part of the fruit is of great value—the floury powder is eaten, the seeds collected and turned into *kpolog*, the husks of the pod used to prepare *aw*, the liquid with which the walls and floors of compounds are waterproofed.

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PRODUCTIVE CYCLE	FOOD CYCLE
221 262 MAY: Rains continue erratically. Early millet planted in the stony and hilly areas. Others interplanting guinea-corn and late millet on compound farms and some ground-nuts. Work on bush farms preparatory to planting commenced. Tempo of agricultural activity increasing rapidly.	Food stores deplenished and severe rationing. 'Hunger' (*kɔm*) commences. Poorer households suffer two or three days' hunger a week, living on vegetable soup, ground-nuts and wild fruits. Householders send their wives to purchase grain abroad for consumption and re-sale if they have money. Many selling live stock bit by bit to buy grain in market. Prices of all commodities rising. Visits being paid to relations in more fortunate areas to get some grain.[1]
JUNE: Height of agricultural season. Men completely absorbed in hoeing	Peak of 'hunger' reached. Granaries empty among poorer households.

[1] The following case-record will illustrate more vividly than explanations the state of affairs in May: Baripeta and his adolescent brother had dependent upon them their mother, the former's two wives, and one infant. Baripeta was known as one of the best young farmers in the settlement. His ortho-cousin, head of the compound, farmed independently. At the end of April Baripeta's supplies were so low that he had to purchase small quantities of grain and send his brother to a relative living in the richer Mampuru country to beg some grain. By May 9 the household was living on shea fruit and vegetable soup, with a meal of porridge every third day, scraped together by the women. Baripeta obtained 2*s.* and sent his brother and senior wife to Mampurugu to buy grain, he himself being unable to abandon his fields just then. They returned (May 15) bringing about 60 lbs. of guinea-corn. After 2 days of complete starvation the household fed adequately though frugally for over a week. As he had to give some of the grain to the head of the compound, Baripeta was left with about 50 lb. of it. A small quantity dribbled away in gifts to other kinsfolk who came to 'beg'. Thus the five adults and the infant used, say, 40 lb. of grain in about 8 to 10 days. Baripeta sent his brother to 'greet' their brother-in-law in the Nabte country and obtain some grain from him. Thus, alternately starving for a couple of days and having enough for a few days, the household carried on until the harvest in July. This case is typical of dozens; but many households were not reduced to such straits, especially those of heads of compounds or elders with large compound farms and several younger men assisting them.

Ground-nuts are chewed all the year round, if available, to stave off hunger, but are never regarded as a substitute for porridge, the real food. But a family with a good ground-nut harvest never starves. There is always a sale for ground-nuts, which figure as contributions in all funeral ceremonies when large groups of people gather and sit about for a whole day and chew them to keep off hunger.

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PRODUCTIVE CYCLE	FOOD CYCLE
and weeding, planting guinea-corn and late millet on bush farms, rice, ground-nuts and minor crops. Hiring labour for help in hoeing and weeding.[2] Women plucking *nangena*.	Much live stock sold or bartered for grain very cheaply; grain scarce and dear. Much ground-nuts for sale.[1] Small groups of children wander about hungry, feeding on wild fruits and small animals they find near the settlements. Towards the end of the month many people are staunching their hunger by cutting the ripe or half ripe heads of early millet which they roast on the embers and nibble at.
JULY: Early millet harvested by those who planted first on valley land.[3]	Early millet eaten by those who harvest. Relatives from the later-

[1] People tend to hoard their ground-nuts until about June, when the price rises to 1*s.* a small basketful, as many require seed then. The proceeds are invested in grain. Grain prices at this time are about twice the average price of roughly ½*d.* a lb.

[2] In June even those whose grain supplies have lasted well begin to feel the pinch. One reason for this is that a considerable amount of grain is expended in feeding and recompensing hired *kpaarip* (lit. hoe-men). These are Nankansi and Builsa who come to Tale-land to seek a few days' work, since their settlements are in a worse plight than those of the Tale. They insist on being paid in grain or ground-nuts which they can take home. As they have to be given flour-water (*ɔɔwkɔɔm*) in the middle of the day and a good meal at night besides a calabash of 4 or 5 lb. of grain per day to carry home, they make considerable inroads on grain supplies. At this time of the year only those with grain to spare engage *kpaarip*, later even poorer men do so. It may mean economizing on one's own food at the time, but in this way, say the Tale farmers, one can get a large bush farm hoed or weeded expeditiously, and thus make up the grain expended twice over.

[3] Early millet is a catch-crop and the Tallensi realize this. Its function is to tide over the period of waiting until the main crops of guinea-corn and late millet are harvested. Hence the necessity for a piece of compound farm if a unit is to be fully independent.

The Tallensi say that early millet normally lasts for two months, and our observations prove this to be the case. When the millet is brought in by the women, the heads are spread out to dry and sorted into two lots, the good heads (*naarɔmr*) and the bad heads (*naarbiɛ*). The best of the former are selected for seed, threshed and stored in pots. This is the first task, as it is considered shameful to be without seed at planting time. The bad heads are eaten first, the good millet stored in the granary and eaten later. For a few days there is no restraint. Small children run about all day, nibbling at heads of millet which have been quickly roasted in hot embers. But as soon as the head of the unit of food economy has carried out the thanksgiving sacrifices which permit him, too, to eat of the new crop, he takes control.

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PRODUCTIVE CYCLE	FOOD CYCLE
Hoeing and weeding of compound and bush farms in full swing. Some still planting subsidiary crops. Poultry breeding begins.	planting areas come to beg grain.[1] Wild fruits still eaten and hunger prevalent in late-planting areas. Ground-nuts, beginning to ripen, plucked and chewed as snacks.
AUGUST: Late planters harvest early millet. Invited collective labour (*kpaarip*) for hoeing and weeding coming to fore, but hired labour still in evidence.[2] Fresh hibiscus leaves used in soup.	Almost everybody has early millet; hunger appeased for a time.

[1] The different settlements harvest at such different times corresponding to their times of planting that more than a month elapses between the beginning of the harvest at one end of Tale-land, and its conclusion at the other end. This gives rise to a system of reciprocities the effect of which is to cancel out the lag to some extent. People from the late-planting settlements visit their relatives in the early-planting settlements as soon as these begin to harvest and receive gifts of early millet from them. Women, especially, go thus to visit their parental homes, and no man would send his daughter or sister away empty-handed. Later, when the early-harvesting settlements begin to reach the end of their early millet stores, the process is reversed. The Tallensi never think of this in terms of economic interchange or reciprocal payments. They insist that *A* gives to *B* freely and without expectation of return because *B* is *A*'s daughter. Later, when *B*'s husband harvests his millet he will send some to *A* freely—because *A* is his father-in-law. It is significant that these mutual 'good turns' always occur between people of different settlements, not between patrilineal kin of the same settlement.

[2] Soon after early millet has been brought in, the elders and others who have had a good crop begin to 'invite hoemen' (*pook kpaarip*). An elder sends round to all the compounds of his section (a sub-division of a clan settlement) requesting the young men to come out and weed his farms, compound or bush, for him on the following day. As no one would be so ill-mannered or so negligent of a kinsman's duties as to refuse, some 20 or 30 young men turn out next day. The one who issued the invitation recompenses them with two meals, flour-water (*zomkwom*) at noon and a lavish cooked meal at night. Thus commences a round of collective weeding, as every farmer who can afford the 20 or 30 lb. of grain and the meat for feeding them in turn invites his kinsmen and neighbours to come and weed for him. Others have to hire foreign labour to the best of their capacity. The Tallensi account for this institution firstly on the ground that it is only by such a mass attack that the rapidly growing weeds can be kept under, and secondly on the ground that it relieves the strain of unremitting toil in the fields and increases the crops.

Gifts to relatives and feeding collective labour are a considerable strain on a man's granary at this time, though, in the long run, much of it comes back. Reliable informants told us that half of their total crop was expended thus, leaving them short of millet in September.

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PRODUCTIVE CYCLE	FOOD CYCLE
SEPTEMBER: Harvesting ground-nuts and other subsidiary crops (roots and legumes) begun. Hoeing and weeding of bush farms continue. Women plucking green ocro and burning early millet stalks for *bakaa*.[2] Ritual festivals commence.	Those who harvested in July already reaching end of supplies of early millet, and resort to market and relatives.[1] Early millet very expensive in market. New ground-nuts (partly green), roots, and legumes supplementing diet largely.
OCTOBER: Harvesting of guinea-corn, rice, root crops, legumes, &c., general. *Neri* lifted. Women drying and storing vegetables.[3]	Food becoming plentiful. Price of grain falling rapidly in market. Cooked food cheap and plentiful in market. Marriage season begins.[4]
NOVEMBER: Harvesting late millet on bush farms, cow-peas and Bambara beans. Women burning valley grass for *ziem*. Children gleaning ground-nuts in play, not because of hunger. Height of ritual festival season.	All kinds of food plentiful. Harvest festivals, during which enormous quantities of food are consumed and circulated and many animals sacrificed, giving the maximum meat supply of the year, and root crops including purchased yams especially in demand for the festivals. All foodstuffs abundant and cheap at market.[5]

[1] Early millet appears in some quantity in the market only at this time; but the prices are about twice the average price of grain. There is some aversion to selling early millet on account of its function in the food cycle.

[2] *Bakaa* is not only used in cooking, but is also chewed with tobacco; hence, there is always a sale for it. The women collect the stalks from their husband's fields, but the *bakaa* is their own property.

[3] With the guinea-corn harvest comes the season of plenty. The tempo of social life and the configuration of social interests changes as completely as the landscape and the climatic conditions. On the economic side attention is at first directed to the selection of seed for storage and the drying and stacking of the grain in the granaries. Women dry and store all kinds of vegetables, especially the much-valued ocro.

[4] The ritual and social activities which dominate this season all require great expenditure of foodstuffs. Marriage involves a period of courtship, during which the suitor brings frequent gifts of guinea-fowls and tobacco to the girl's father and mother. A few days after marriage, the bridegroom sends a large basket of grain and several guinea-fowls to his mother-in-law, and finally has to supply several chickens and guinea-fowls for the legal formalities. The transfer of bride-wealth cattle does not affect the domestic economy materially. Altogether, a man is fortunate if his expenditure is not more than 15 to 20 birds, a block of tobacco (costing 1*s.* or more), a couple of baskets of grain, and a few shillings in money. The girl's family gains correspondingly.

[5] The Harvest and New Year Festivals are celebrated in November. Fowls,

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PRODUCTIVE CYCLE	FOOD CYCLE
DECEMBER: Agricultural work over.	Height of ritual season: funeral ceremonies, children's dedication ceremonies, many marriages; all involving consumption of live stock and grain, in sacrifices, as cooked food, and beer.[1]
JANUARY: Period of secondary activities such as housebuilding, cut-	Grain rationing again begins. Grain and other foodstuffs, including im-

guinea-fowls, sheep, goats, and dogs are slaughtered in profusion as sacrifices to ancestral and magical shrines. Beer (*daam*) made of malted grain is boiled, though in small quantities; much food is cooked to receive kinsfolk who call upon and greet each other. Recently married men send baskets of sweet potatoes, frafra potatoes, and yams to greet their parents-in-law. The Festivals last only a few days, but the tubers and animals are consumed over a period of some weeks.

[1] In this period, too, are celebrated all those clan and family religious ceremonies in which animal sacrifices and cooked food and beer play a great part. Indeed, these rites are often postponed for several years until a sufficiently good harvest enables enough supplies to be accumulated. We have seen a cow, a donkey, about 15 sheep and goats, and a large number of fowls and guinea-fowls slaughtered at the funeral ceremonies for a very venerable elder. We were assured by his sons, who were responsible for these ceremonies, that they had used up the whole of a large supply of guinea-corn in the preparation of ritual beer and food and in providing hospitality for throngs of guests. At such a funeral the deceased's cognatic and affinal kin bring obligatory food-contributions of cooked porridge, sheep, goats, and birds. So great were these contributions at one funeral that two or three basketfuls of porridge had to be thrown away as it turned sour. Funerals are extreme cases of the lavish utilization of food at this time of the year; and only three or four big funerals take place in any settlement in one season. Most funerals require a much smaller expenditure of live stock and grain than that made at an elder's funeral.

This is not the place to discuss the types of ritual and ceremonial situations in which 'things' (*bon*)—the Tale concept which covers every type of property—are consumed. In a good season there will be a tremendous spate of them; in a poor season only urgent rites will be performed. A word, however, must be said about beer, the most important ritual substance apart from the animals and flour used in sacrifices. Beer is cooked (*doŋ-*) by women, malted grain (*kpeŋa*) of guinea-corn or millet being issued to them by the man at whose request it is made. In the average compound beer is never cooked except for ritual purposes which may be twice or thrice a year. Chiefs and headmen, who always have a surplus of grain often, and elders occasionally keep a supply of beer on hand for guests. Tale women never make beer for sale in the markets; indeed, any man would be horrified at the suggestion that his hard-won grain should be used in this way. The Tallensi are a sober people on the whole.

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PRODUCTIVE CYCLE	FOOD CYCLE
ting grass and timber for roofing, handicraft work. Young men begin to go abroad temporarily.[1]	ported maize, plentiful and cheap at market.
FEBRUARY: As in January.	Grain issued for only one meal a day. Many purchasing grain rather than use up their own supplies. Ground-nuts and cow-peas regular and important supplements to cereal food. Women finding grain to augment supplies, by trading, etc. Market supplies still plentiful, prices average.
MARCH: As in February. Sporadic cleaning of fields and hoeing.	Grain supplies sinking and more carefully rationed. Children and women gleaning ground-nuts to stop hunger. People going to Mampuru and Nabte countries to purchase grain for re-sale. Grain still plentiful in market, also other products, e.g. yams (imported).[2]

[1] This month of plenitude marks the peak of the food cycle. Soon supplies diminish again; men who are setting up compounds of their own commence building operations; but almost every compound requires some repairs. House-building and thatching are crafts in which a great many men have no skill. They therefore have to invite (*paal*) neighbours or relatives who have the skill to carry out the repairs for them; and these have to be generously fed in recompense. A new house, again, is built co-operatively with the aid of kinsmen, relatives and friends, who also have to be generously fed.

With this further drain on his grain stores, the head of a unit of food economy has to go warily. Hence in spite of the ample and cheap grain available in the market, he begins to reduce the ration of grain he distributes to his dependants. In February the rationing gets stricter, for it is essential to keep a reserve against the first month of the rains 'to strengthen one' against the greater demands upon one's energy made by agricultural labour. They say this explains why those who can afford it buy grain for immediate consumption. Finally, just before the rains, supplies are sinking to the minimum which will be reached in the month preceeding the early millet harvest, with the usual effect of causing visits to neighbouring areas in search of grain to purchase.

The temporary migration of young men is more fully dealt with in a paper by M. Fortes, 'Culture Contact as a Dynamic Process', *Africa*, ix. 1, 1936.

[2] We have, in the above table, emphasized the place of cereals in the cycle because they constitute the staple food of the Tallensi; and as we are concerned with the domestic economy of food, we have referred to the market only in order

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221 262 A striking correlation emerges from the above synopsis of the cycle of food economy. It will be seen that domestic food-supplies are at their lowest at the time—recognized as such by the natives—of the most strenuous output of physical labour, i.e. in May–June, and highest when there is least agricultural work. In other words, it would seem that food consumption is inversely correlated with food requirements, if we may assume that more food is needed to sustain the arduous agricultural labour of the rainy season than the leisure months of the dry season. How this affects the working capacity of the natives must be left to the social biologist to determine; it is a type of problem beyond the competence of an ethnographer. The
251 261 Tallensi have both excellent receptacles and adequate techniques for storing all kinds of food. We have seen grain and ground-nuts produced from granaries or storage baskets (*kusɔk*) twelve months after they had been packed, and in perfect condition. Even root crops and legumes, which appear to be more susceptible to damp and weevils, can be stored for a year. Nor, in our estimation, are the Tallensi

443 to bring out more clearly the fluctuations in domestic supplies. The market is a fundamental economic institution in Tale society, but we have space here only for a cursory comment on its function in relation to our main theme. Every kind of raw foodstuff, from grain to wild fruits and many varieties of cooked food can be purchased in the market. A visit to the market shows at once what the state of the domestic larder is; high prices indicate empty granaries, low prices plentiful domestic supplies. The cooked food offered in the market illustrates the seasonal variation in supplementary diet very well. As soon as Bambara beans or frafra potatoes are lifted they appear, both raw and cooked, in the market. The food most commonly sold in the market is porridge (*sayabo*), the staple cereal food; but other cereal and pulse confections can be bought there, many kinds being especially prepared for sale, and rarely, if ever, cooked for home consumption. Such are *maasa*—fried millet-cake, *gwor* and *kameha*, both made of flour cow-pea. A number of women carry on a regular trade in these luxury foods and thus reap a steady income. Beer is always on sale in the Tale markets, manufactured and sold by a few regular women traders, all Nankansi as far as we know. Only in the markets have we seen intoxicated men; never at ritual gatherings. The market is also the main supplier of tobacco, which most mature men and many old women chew or smoke, but which only a minority are able to grow for themselves, and of kola nuts, imported from Ashanti by foreign traders, and universally chewed as a stimulant by men, women, and even older children. Curdled milk (*bigbihir*), a luxury food, is generally obtained there, too. The market represents the point of contact between the basic subsistence economy of the natives and the money economy which exists side by side with it.

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312 natives regard this water as unsuitable for their own consumption, but use it as drinking-water for fowls, for building purposes, and to wash in. There are no special rights of use attached to water-holes, but as a rule each water-hole serves a group of compounds within a radius of not more than 300 yards.

●267 A proper meal, according to Tale values, must consist of cooked food; and two meals a day are considered to be necessary for the satisfaction of ordinary needs. When the granaries are full and the women are given grain liberally this standard can be reached, but not in the lean months.

596 The owner of the granary distributes grain periodically to all his
261 wives and those of the householders dependent upon him. He never
264 descends into the granary himself, but appoints a young man, preferably unmarried, to do so, lest the women complain of favouritism. Each woman receives the same measure regardless of her status or of the size of her family. Absolute equality is stressed. Even a young wife without a kitchen receives an equal share. The measure, a small basket or calabash, remains the same throughout the seasons, but the period for which the housewife must make it last varies. When grain is plentiful they receive the measure daily. They will cook food at noon and at sunset, and some will make enough to suffice for the next morning's breakfast. In times of scarcity the same amount of grain has to last two or three days. It is left now to the individual household and family to supplement its food resources as best it can. If a noon meal is cooked at this time, it is made of grain obtained from the ancillary sources we have previously described. Every woman carefully considers her supply, limiting the number of meals so that the family may be assured of the evening meal as regularly as possible.

562 However, shortage of food is not alone responsible for the uncer-
264 tainty of meals. Woman is the pivot of the whole domestic life. She
252 carries on her duties throughout pregnancy till the moment of labour approaches, and again as soon as her period of confinement is over (three or four days). But she is also absolute mistress of her home, and when she refuses to cook her husband cannot compel her to. Nevertheless, a woman will miss cooking a meal only for very good reasons, e.g. when she has been working in the fields late, sowing or harvesting, or beating the floors of the compound, or has been away

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for firewood. A woman with a small child never omits to cook a little for it, whatever the circumstances. The cooking routine also becomes upset under the stress of seasonal activities. When a whole family goes to work at a bush farm or to a fishing expedition, some groundnuts or dry guinea-corn is taken along to chew, and no cooking will be done until evening.

Each woman is responsible for the provision of meals for her husband and family. In certain situations co-wives co-operate for the common good. Thus when building operations take place, or a man has hired or 'invited' labour the co-wives cook in turn to provide food for the men. On such occasions the owner of the granary allots a special share of grain for the labourers' porridge to the woman whose turn it is to cook for them.

Mutual assistance between co-wives occurs only when a woman is confined or ill. Then her co-wife (a wife of her husband or his brother) cooks for her and her family. The confined woman provides her own produce and firewood and the cooking is done in her kitchen. This is the duty and prerogative of co-wives. Only as a last resort would the husband's mother or sister cook for her in those circumstances. When a young wife shares her mother-in-law's quarters she does all the household tasks; but when she shares those of a senior wife, they assist each other and cook in turn.

The standard meal of the Tallensi is *sayab ni ziet*, meal porridge and soup. Porridge is prepared of flour and, depending upon the season and what a man has in his grain-store, it is made of early millet, guinea-corn or late millet. Sometimes also maize (generally purchased) or cow-peas or rice is used. When root crops are in season they are cooked instead of porridge, but not because porridge becomes monotonous to the Tallensi, or they wish to vary the diet (see Appendix), it is done in order to make the grain last longer. 'Porridge is food, it makes you strong', and there can never be too much of it is the Tale point of view. 'But if you eat too much of the other things they spoil your belly'.[1]

The preparation of porridge is very simple. Flour is not preserved

[1] A Tale friend enquired what kind of food he would be given in our country, and when told that he would eat meat, fish, bread, and eggs, he exclaimed, 'What, no porridge? I call that starvation.'

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252 from day to day, but is usually ground fresh whenever required. When her flour is ready, the woman puts some water on to boil in the porridge pot (*sayərək*). Sitting on the flat stone in front of the fireplace she then mixes some flour with cold water, stirring it to a thin paste with her hand, in an old calabash kept for this purpose. When the water boils she pours the paste in, stirring all the while with the stirring-stick. It is left to boil for a few minutes until it thickens and assumes a gluey appearance. With a ladle she pours off about a third of the contents into the old calabash, and puts it aside. She sprinkles a few handfuls of flour into the porridge in the pot, stirring it swiftly with her stick until it becomes quite thick. Every now and again she dips her hand into cold water and with a brisk movement sweeps the porridge adhering to the stick into the pot. The half-cooked contents of the calabash is then added to the porridge and stirred again. When it is thick enough for the stick to stand in it the porridge is ready. The time taken to cook a potful of porridge sufficient for 10 people is only about 10 minutes. The same technique is employed by all the women; the only difference introduced in cooking large quantities is the mixing of the flour with warm water instead of cold.

262 252 Porridge is never eaten by itself, but is always accompanied by soup, the main variant in Tale diet. This is made chiefly of fresh or dried vegetables, cultivated or found wild, and there is never a shortage of these. When reduced to its last resources a family subsists almost entirely on soup.

The natives classify soups into two types: *zisaalɔg* and *zizaayɔg*—'slippery' soup and 'coarse' soup. The first is smooth and viscous: 'It slides down as soon as you put it into your mouth, before the porridge.' Ocro soup is the most representative of this kind. The coarse variety is made of crushed ground-nuts, marrow leaves, hibiscus or similar vegetables. 'It sticks in your mouth after the porridge and you have to swallow it down.'

Porridge is the substance, soup is the relish. A woman tries to vary the latter 'so that they do not tire of eating the same'; when a visitor from afar comes she prepares the most tasty soup she knows, and if she wishes to please her husband she observes which soup he prefers and cooks it frequently for him. Seasonal factors, however, count for much, and women cook mainly what is most easily obtainable at

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the time. From a series of menus which we collected over a period of two months (November–January), it would appear that ocro is the favourite soup, while *bet* (*hibiscus sabdariffa*) is the least liked. *Neri*-seed[1] soup is rarely cooked for ordinary consumption, but is prepared on a special occasion such as a visit of an in-law relation.

Though the number of different vegetables planted is few, the women are able to achieve a considerable range of variation by using every part of the plant and by combining them in different ways. Every woman has a well-stocked larder of dried vegetable-leaves and fruits which she keeps in pots (e.g. ocro) or onion-shaped receptacles made of dried guinea-corn leaves (*kigkarog*) and suspended from the rafters to keep them dry (e.g. *bet* or *nangena*).

The process of preparation is the same in the main for most soups, and is described in the Appendix. Vegetables and other ingredients are never washed or cleaned before use: Tale women are very casual in their cooking hygiene; the cooking-pots are left unwashed from one meal till the next and the soup dishes always have stale food adhering to them.[2]

Meat is a very important ingredient in the soup. It is most commonly consumed in this way, though it is sometimes eaten by itself by men after sacrifices. It is a great delicacy and men will often spend long hours at a ceremony in order to obtain a morsel of meat or a tiny piece of the viscera. Any scrap of meat or fat which falls to the ground is picked up and swallowed raw. But meat is not 'food', they say, as porridge is, it is *valeg*, i.e. gluttony. While a little of it is strengthening, too much causes diarrhoea.

The only meat directly killed for cooking is the guinea-fowl. The

[1] *Neri* (*cucumis melo*) when ripe is buried and covered with guinea-corn stalks and allowed to rot. The seeds are then extracted, dried, and stored for making soups.

[2] The chief reason would seem to be the scarcity of water at certain times of the year, and the labour involved in carrying it, as well as the ingrained indifference of the Tallensi to cleanliness. Yet they take great pleasure in polishing their calabashes at the water-holes to make them yellow and shiny, and treat the new calabashes in a special way to attain the gloss. We have seen women carrying gravel home with them when visiting a neighbouring settlement some 4 miles away because their own clayey soil was not satisfactory for cleaning calabashes. We could not obtain an adequate explanation of this attitude from the women themselves, beyond that 'they like it so'.

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initiative in this matter is never taken by the woman herself. If she has no meat she cooks without it, but the husband, tasting the soup, will observe that her meat is finished and will catch a guinea-fowl for her or give her money to buy one at the market. A woman may not catch one of her husband's guinea-fowls herself or she would be branded a thief, but she could catch one of her own, if she has any. This is the reason why she tells her husband 'So-and-so gave me a guinea-fowl and I had it killed to-day', if she slaughters one she received as a gift. A woman never kills or plucks a guinea-fowl herself because it is unbecoming. She will ask a young boy in the compound to do it for her. We have frequently observed women carrying home live guinea-fowls already plucked for them in the market by some man, so as to avoid delay in the cooking. The freshly killed guinea-fowl is hung up directly over the fireplace where it becomes gradually dried. When it is used the first day it is called *num-mahar*, i.e. fresh meat; after two or three days it is dry on the surface but still soft inside and is known as *num-gahar* or *num-ɔɔra*, i.e. smoked meat; after three days it is dry all through. It is now *num-kpee*, dried meat. There is no preference shown for meat at any particular stage; the Tallensi are an economical people and have a matter-of-fact attitude in this regard. Meat is added to the soup in very small quantities. Used fresh or smoked, it is added as a whole portion, e.g. the head, the neck, a wing, a leg or the breast. Dried meat is ground and stirred into the soup in the same way as the other seasonings. A medium sized guinea-fowl thus lasts a family of seven about a week. Dried meat can be kept any length of time, and if a piece of fresh meat is obtained in the meantime it is used up first. In such a case one guinea-fowl might last a housewife as much as a fortnight.

Beef or donkey-meat is much appreciated. We have seen a woman produce about two square inches of dried beef which was a year old. Such meat is carefully preserved in a pot or calabash among a woman's more valued possessions; but dried guinea-fowl is kept with her other soup ingredients in the kitchen.

Fish is used in the same way as meat, though less frequently, and mainly in dried form. This is due to the fact that it is seasonal and has generally to be purchased. But it is appreciated as much as meat.

Vegetables are the foundation of every soup; meat and fish make

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a good soup; but no soup is complete without seasonings (*zikmɔt*). Red pepper (*nanzuuk*), the most important, is never omitted from any soup, is added to other dishes too, and even to native beer to give it more punch. Salt (*yaarem*), though very highly valued, is not as indispensable as red pepper. *Ziem* (the ash of valley grasses) or *bakas* (the ash of early millet stalks) is sometimes substituted for salt or used in addition to it. A much-favoured seasoning is the dawa-dawa seed ball (*kpɔlug*) which is sometimes even used as the foundation of a soup. Usually the seasoning ingredients are all used together; the more pungent the soup the better it is liked. Most women do not keep large supplies of seasonings, but consider it worth while to walk several miles to the nearest market to buy them.

Thus, though the native considers soup merely as a relish for his porridge, it really provides the vegetable and animal food (the latter in very small quantities) which balances a purely cereal diet.

The soup is always put on to cook first. While it is boiling, the woman sweeps out the close (*dendɔŋɔ*) where the meal is to be eaten, and prepares the vessels for serving it. The preparation and cooking of the soup takes 30–40 minutes. When it is ready she makes the porridge. In all these tasks a woman is assisted by her young daughters. Small boys, too, sometimes give a hand with the fire, but never with the cooking.

As soon as the porridge is ready it is dished up in several calabashes. The housewife takes much trouble in arranging her husband's portion in neat slices—she is less fastidious about the other portions. Each portion of porridge is rubbed over with shea butter; that of the husband's very liberally. This is the most common way in which fat is consumed. After the porridge has been shared out the soup is poured into an equal number of dishes, or sometimes over the porridge. The actual cooking and serving of food, unlike the fetching of wood and water, does not absorb a great deal of the housewife's time. One hour is sufficient to prepare a meal for ten people.

The amount of food consumed per meal differs according to the seasons. When food is scarce, whatever quantity of grain a woman has she will cook, and it will have to suffice; but a Talena never feels satisfied unless he has had about 1½ lb. of porridge at a sitting.

There is no specially appointed eating-place in the compound.

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of preparing it. The usual way is to mix the flour with water into a stiff dough, then knead it into a smooth, flat cake (*zɔmgar*), and place it in a calabash which is filled with water. A hasty method consists in merely pouring water over a handful of flour and stirring it up with the hand. This is *zɔmsaka*. As porridge is the ideal food so *zɔmkuom* is the ideal everyday beverage. It is the drink offered to guests, and the regular libation given to the ancestors. It is also food. When the water has been drunk the flour is eaten by adults and children. *Zɔmkuom*, unlike ground-nuts, forms a hasty meal and is resorted to when cooking is inconvenient.

Sporadic eating is a universal habit. It goes on in time of plenty because food abounds, and in time of scarcity because one dare not forego an opportunity of eating anything. When the ground-nuts are nearly ripe people pluck a plant from anybody's field and chew the nuts. When grain is abundant a handful is roasted over a fire and eaten at any time of the day. Nevertheless, the Tallensi are capable of going without food for long stretches at a time.

At the ritual and ceremonial gatherings which take place preponderantly in the dry season but intermittently throughout the year, ritual flour-water or cooked food is often passed round, or ground-nuts distributed to the elders present. At the markets, too, particularly in the months of plenty, both porridge and especially the luxury confections such as *kameha* (fried cakes of cow-pea flour) *maasa* (fried millet cakes) and so on are bought in quantities. The small animals and birds, which children hunt and eat, as well as the ground-nuts they glean, belong to this category of food consumption.

Sporadic eating does not, however, in any way affect the domestic organization of the food economy. The housewife never omits to cook a meal because her children found some titbit for themselves, nor will she even question them about it. The Tallensi do not consider such eating as 'food'; not even in the time of scarcity when meals at home become uncertain.

Food taboos, on the other hand, react upon the arrangements for the cooking and distributing of the food. Women never cook fowls or dogs, since they avoid eating them. Men therefore cook these animals for themselves. If a woman observes a totemic taboo, her husband cannot compel her to cook the animal she avoids for him, though he

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may do so for himself. She, again, may eat an animal he avoids, but would hardly find it feasible to cook it in her own kitchen.

The occasions for which special foods are customary are few. A woman in her first pregnancy must eat food ' which is good for her ', such as meat and highly seasoned soup and avoid unsuitable foods such as thinly mixed flour-water (*zɔmsaka*), left-over porridge, or too many sweet potatoes or frafra potatoes. Nor may she eat cold food or drink too much cold water. ' Sweet ' food (i.e. luxury foods such as sold in the market) is not encouraged, while honey is prohibited for magical reasons. A woman found eating the latter is severely reprimanded and a special rite has to be carried out on the birth of the child or it will have a blocked nose. During confinement a woman is given porridge with highly seasoned soups and a generous allowance of fish or meat to make her strong.

There is no specific food for sick people, except that fresh porridge and pungent soup are considered strengthening. The prognosis is very grave if a sick person refuses food. In the prostration of grief, too, people refuse food and their relatives try to tempt their palate with delicacies.

Old and toothless people in time of food shortage are given crushed ground-nuts (*sukpabugra*) to drink down with water.

We have attempted, in this paper, to give an outline of the domestic commissariat of the Tallensi. Our interest has been focussed on the principles according to which the domestic groupings of Tale society organize and sustain the social activities customary for the production of raw foodstuffs, their preservation, and their conversion into and consumption as edible food. We have observed how the ever-changing, developing structure of the joint family determines these activities; how Tale culture defines the values and norms by which these activities are regulated and directed; how these values and norms, on the one hand, and seasonal conditions, on the other, control the annual cycle of food production and consumption; and finally, how the convergent influence of family structure, cultural norms and values, and seasonal exigencies determine the crucial situation of the series, the translation of the product of natural resources and culturally organized labour into the edible food in the kitchen.

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We have been unable to explore the economic context of food in Tale society (e.g. as exhibited in the market); or to discuss the emotional values associated with it; or to describe its functions as a technique for expressing, defining, and imposing social obligations. These problems must be left for consideration at a future date.

M. and S. L. FORTES.

APPENDIX

We give below a few examples of soups and their method of preparation; a brief description of foods used as substitutes for porridge; of occasional foods which are obtained mainly in the market; and of the preparation of shea-butter.

Soups (*ziet*)

Zisaalɛg—smooth, viscous soup; best example of this is *ma'ana ziet*—ocro soup.

A small handful of ground, dried fish or meat is thrown into a potful of boiling water. A handful of red peppers, a few lumps of salt and a piece of dawa-dawa-seed ball, ground up together and mixed into a paste with a little water is added next. The seasonings are made into a paste so that the pepper should not float on the surface. While this is cooking the ocros are prepared. They are used either fresh or dried; but frequently the two varieties are mixed in equal proportions. They are crushed into a pulp on the grind-stone and added to the boiling soup. The contents are stirred with the stirring-stick (*sugr*) every now and again. The soup takes about 30 minutes to cook.

In soups of this type the vegetables used are always crushed to a pulp or cut up very fine. Other viscous soups are made from the leaf of the local elm (*suom*) and from a common weed (*saalem*), but mainly by the addition of ocro to other vegetables, as, e.g., *vaat ni ma'anar*—leaves and ocro—where the leaves of the ocro or vegetable marrow or baobab tree are used; or *bɛrmihim*, a soup made of the white hibiscus flower with the addition of ocros.

Zisaayɛg—coarse soup. To this group belong all the soups made of the hibiscus and other leaves, and also soups made of ground-nuts and cow-peas. The leaves are sliced and thrown into boiling water. While they are cooking, a small calabashful of ground-nuts is crushed fine, also a handful of peppers, a piece of dawa-dawa-seed ball and a few lumps of salt. These are all mixed together and stirred into the boiling vegetables. If there is meat or fish it is also ground and added at this stage. This soup takes 30 minutes to cook. The thickening, which is always added to this kind of soup, may be made of coarsely ground grain, or of cow-pea flour.

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The Tale women show great ingenuity in the number of appellations they give to soups of this group, which often do not differ from each other in the main ingredients.

Cooked Foods Eaten as Porridge Substitutes

1. *Tubers*:

Frafra potatoes (*peeha*) boiled in the skins and eaten plain. This is called *peefita*.

Cooked without the skins and eaten with soup. The potatoes are put on the ground and trodden with the feet in a circular movement. This removes the skins. They are then washed and put to boil. The water in which they have been cooked is not utilized.

Yam (*guya*) boiled in plain water. Is served in small chunks and eaten with soup.

Sweet potatoes (*guuhma'ala*) boiled and eaten plain. Sometimes cooked together with frafra potatoes.

2. *Legumes*:

These are boiled in plain water and are eaten with shea-butter and a seasoning of pepper and salt.

3. *Rice*:

Boiled with pepper and salt. Shea-butter is added to it when dished up. Is eaten with soup.

Ground cow-peas or ground rice is occasionally made into porridge.

Occasional Foods

Kaneha—fried dumplings made of cow-pea flour. The process of preparing the cow-pea flour (*tia zom*) is rather laborious.

The cow-peas are crushed and washed in several changes of water in order to remove the skin which, if left, would make the flour black. It is then spread out in the sun to dry and later ground to flour. The flour is made into a thick batter to which salt is added. The batter is dropped into boiling shea-butter, handful by handful, and fried a golden brown. This is a much appreciated food and is only cooked for the market. So also is *maasa*—fried cakes made of millet or maize flour. These are much larger than the *kaneha* and are fried in the same way.

Gaar—steamed cakes made of cow-pea flour, bean flour, or ground rice. The flour is prepared as for *kaneha*. Instead of salt, an infusion of *bakaa* (the ash of early millet stalks) is added to the water which is used for making a thick batter. A pot is half-filled with dry grass and a little water added. It is then put on to boil. Small portions of the batter are in the meantime placed in between broad folded leaves of the *bayana* tree, or, if larger cakes are

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desired, between two overlapping leaves. As soon as the water boils the cakes are arranged one on top of the other inside the pot, which is then closed tightly with a lid or calabash. The cakes are thus cooked by the steam, and are ready in 15 minutes. They are like baked porridge in appearance and are eaten with melted shea-butter spread over them and a sprinkling of salt and red pepper. *Guor* is principally cooked for market sale, but is occasionally cooked by the housewife to vary the menu.

Milk (*bihim*)

Milk is obtained only from cows and is eaten as curds (*bigbihir*) mixed with flour. Herdboys, however, when out on the pasture sometimes milk the cows for a drink.

Shea-Butter (*kpaam*)

There are five stages in the making of shea-butter:

1. The nuts of the shea fruit (*kpi*) are crushed with a stone to a brown pulp.
2. The pulp is placed in a large open pot (*sar*) over a fire, and stirred with a stick for a considerable time till it is a thick, sticky mass.
3. This is then ground quite fine. The grinding releases the oil.
4. It is now washed in several changes of water, being stirred continually with the hand, until the oil rises to the surface.
5. The oil is skimmed off the water, melted over a fire, and again skimmed till pure white oil is obtained. This is put into calabashes or small pots. The dark oil-scum (*kpabut*) is kept for medicinal purposes. It is only used externally. The brown fibrous residue left after the washing process is made into small balls and dried. This is *burum* and is used for making fires.

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which children of 9 or 10 are fully familiar with and the compulsion of which they experience to the same degree as the adults; and there is the whole body of implicit moral norms which regulate the day-to-day life of the family and emerge in the duties of children to one another and to their parents.

I have already mentioned the prohibition in some clans against the eating of fowl by first-born children. By contrast with the voluntary abstention from fowl meat practised by women, this is a taboo of supreme mystical value for these clans and is exactly parallel to the totemic avoidances of other clans. The Hill Tallis, for instance, may not eat tortoise, some may not eat crocodile or python, and others taboo dog. A 5-year-old knows his or her personal or clan taboo, and can state it emphatically. The remedy for a chance infringement of such a taboo is extremely simple—e.g., in the case of the fowl, crushing some fowl droppings in water and giving the child the fluid to drink. Again the supernatural penalty for a breach is of a vague and general kind. In some cases it is thought that it would lead merely to an eruption of scabies on the head; in others it is said that the offender would slowly lose health and strength. These sanctions, however, are not the effective agencies maintaining the observances. Breaches of these rules are exceptional, both among children and among adults. A Talɔŋa submits to a food taboo in virtue of a configuration of positive habits and dispositions built up in childhood, not through fear of the sanctions. From the time that it is a babe in arms a child is prevented from tasting or even touching any food which it is prohibited from eating. Later it will be called away from where its companions are sitting over a fire roasting titbits of food forbidden to it—'Come here, you mustn't eat that; it is forbidden.' I once observed a child of about 5 standing aloof while a group of his brothers and sisters were consuming a dish of python meat—a prized delicacy. 'I don't eat python, it is my taboo,' he explained, with an expression of complete aversion.

A vivid example of how food taboos are inculcated was provided by a biographical reminiscence of the chief of Tongo who, as a first-born, may not eat fowl. There was talk in his court-room of crops and famine in the old days, when an elder wondered if a man would eat a forbidden animal if he were starving. The chief, holding with

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262 869 some of his elders that it would be too repugnant even for a starving man to do so, told this story of how he had himself, on two occasions, violated his taboo. When he was a child of perhaps 5 or 6 he was the favourite of his grandfather, as often happens. Some one brought the old man a gift of eggs which he promptly had roasted. He had to go outside to attend to some matter and he left his small grandson to see that no one purloined the eggs. Now an egg is a potential fowl, and is therefore equally taboo with the latter. The chief described how there was a brief struggle between his conscience and his desire, and how he succumbed and ate the eggs. His grandfather was furious when he returned and the child in trepidation lied, accusing a girl who was in the next room. The girl denied the accusation and the small boy's father was called in to adjudicate. He at once suspected his son, but the grandfather angrily defended the boy, who was now too terrified even to speak. The matter was dropped; but the small boy, afraid of his father, remained with his grandfather till nightfall. Then he slunk out, only to be caught at once by his father, who had been waiting for him. His father said nothing, but grimly called for a feather and a large gourd of water. 'Drink,' he commanded, and compelled the child, now sobbing with terror, to swallow the whole gourdful of water. 'Open your mouth,' said the father, and began to tickle the child's throat with the feather until he vomited. 'And now,' said the father, grasping the child's arms tightly and striking him right and left, on buttocks, back and head, 'I'll teach you to eat fowl and steal and tell lies.' 'That was how I learnt not to eat fowl,' the chief concluded amid general laughter. But, he continued, many years later, at the time of the great famine, he with two companions was on his way to a neighbouring district and stopped for the night *en route*. They were extremely hungry, not having had a proper meal for days, and when they were offered porridge and a cooked fowl ate ravenously. Now two of them tabooed the fowl, but they were too hungry to resist. The meal finished, they rose, when suddenly the other man who was not allowed to eat fowl was overcome with nausea and began to vomit. Immediately he himself also began to vomit. They had not, after all, been able to stomach the fowl.

183 764 How strongly quite young children feel the compulsion of a ritual obligation was brought home to me when a boy of about 10–11 was

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121 each within the context of the particular type of social situation is specific to it and can be determined only from the analysis of the situation itself. It may differ considerably from its "institutional function" in relation to the culture as a whole. Thus the rules of exogamy viewed in relation to the entire social organization of a people may demonstrably serve to emphasize and preserve the integrity of an unilateral kinship group. But in a particular situation, a man barred from marriage with a woman he desires may enter into an illicit sexual intrigue with her, which may lead to dissension within the kinship group. In such a case the "proximate function" of the rules of exogamy appears to be the very contrary of their "institutional function." This is an hypothetical instance; but it will suffice to illustrate what we mean when we say that the components of any type of social situation are inter-related in a manner specific to it or that it exhibits a definite structure. The aim of the present paper is to analyze the structure of a situation which recurs with some frequency in the life of a tribe recently visited by the writer.

226 221 [805] Among the Tallensi, a tribe of the Northern Territories of the Gold Coast, the communal fishing expeditions which take place every year are events of this kind. They extend over a period of about a month, between the close of the dry season and the commencement of the heavy rains. During this month which coincides with most of the native lunar month *Sigkpɛɔŋ* ("Dry rains"), and the European month of April, rain falls sporadically (five times, at varying intervals, in 1934, a dry year) but sufficiently for the sowing of early millet and some of the minor crops. Sowing demands the concentration of all energies of the family for a day or two after a fall of rain; then it is discontinued until the next fall of rain. Besides sowing, other technological and economic activities compete with fishing during this month. House repairs and rebuilding are still in progress and of course the markets, which take place on two days out of three within the tribal area, are in full swing. All these activities are equally shared by men and women, assisted by the children of both sexes.

226 262 Fishing therefore is not an activity of an economic off-season. Its calendrical incidence depends primarily on the technique employed, which is suitable only for shallow pools; and the pools are shallowest at the end of the dry season. It is, also, only indirectly correlated with the diminution in food supplies which becomes general during the "dry rains", since fish, like meat, is valued as a delicacy and never as a substitute for the staple cereal foods. In any case, the catch is usually too small to influence the economy of food supplies materially. Nevertheless, the luxury value of fish furnishes one of the main inducements to join the fishing expeditions.

226 But the greatest attraction of these fishing expeditions to young and old, men and women, is the excitement and thrill they provide, the immediate pleasure of participation in a communal enterprise with the possibility, however remote, of some gain.

133 226 The pools fished lie in the bed of the White Volta River. When the rains cease the water level gradually sinks till eventually only a series of pools divided from one another

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241 keep pace with the growth in intensity of conditions. Farming is regarded as a custom and not as a business, with the result that in crop production and in animal husbandry the maximum is left to Nature. It is custom based upon an unsettled past which underlies the economic system.

Diet.

262 264 The diet of the people is largely vegetarian; only after religious sacrifice, or upon a very special occasion, is the flesh of cattle, sheep, goats, donkeys or dogs, eaten, subject to certain taboos. Fowls are not eaten by women, or, in some sections, by first-born male children; they are therefore not generally found in a normal diet; guinea-fowls are eaten, however, by all who can afford them. The big meal of the day is consumed in the evening and consists of cereal flour, cowpeas, or Bambarra beans, prepared as a dough or porridge, over which soup made with or without meat, is poured. In the mornings a light meal is taken off anything left-over from the previous evening; similarly at mid-day. When working in the farms at the beginning of the season cereal flour is taken mixed with drinking water. The results of a study of the diet of the Tallensi—a tribe around Tongo in Zuarungu Area—in relation to domestic economy, has been dealt with very fully by Dr. M. and Mrs. S. L. Fortes (9).

Recurrent Food Shortage.

262 251 241 It is not surprising that with a precarious rainfall and almost complete dependence upon cereals, crop yields are very variable and recurrent food shortage is a common experience. Soil erosion, and a system of continuous cultivation with inadequate manuring, have reduced the bulk of farmed land to a basic minimum of fertility, except in the immediate vicinity of compounds. The food problem is further complicated by a natural improvidence of the people whereby all crops are consumed in the year they are produced. In good years a surplus of grain is used lavishly in performing religious customs; it is seldom stored against the possibility of a bad season. A rise in the market value of crops at planting time suggests that many people are so improvident as not even to save sufficient seed for planting.

Famine Foods.

722 261 A reduced supply of cultivated foods in a poor season is eked out by food from wild sources. There is scarcely a single tree in populated areas which has not some value in this respect; and the seed of an indigenous grass, "Gonongo" (Nankani) (Dactyloctenium aegyptium), is laboriously collected and used as grain.

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Section III.—DISCUSSION OF FINDINGS IN PARTICULAR RELATION TO FOOD SHORTAGE.

262 The remarks made in this section apply more particularly to the Zuarungu and Navrongo Areas than to Kusasi, because, generally speaking, the Kusasis seldom suffer from food shortage and, indeed, they frequently have a surplus for disposal. For this reason the agricultural problem is more acute in the Zuarungu and Navrongo Areas; an adequate and reliable food supply is a prerequisite of all development.

Nature of Food Shortage.

262 251 Enquiry showed that, as far back as memory goes, a shortage of cultivated foods is experienced in about two years out of every five; the problem, therefore, is by no means a new one. Hungry years follow seasons of poor crops, since practically nothing is stored for more than eight months, *i.e.*, from the time of the main harvest in October and November, until early millet is harvested in the following July. A surplus in a good season is not stored against the possibility of a bad one, but is used lavishly in the performance of religious customs, or it is sold or bartered for livestock. Livestock may be regarded as a kind of bank; the sale of stock is the usual means of obtaining money. In years of food shortage, livestock are sold in order to buy grain from Kusasi, Mamprusi, or Dagomba; and because a number of people are selling at the same time, livestock values fall very considerably in these years.

262 222 Although bad seasons result in food shortage for many, they do not necessarily mean starvation, for there are a number of wild sources of food which can be used to eke out a reduced supply of cultivated foods. The most common causes of poor crops are abnormal rains and the ravages of locusts. In good seasons, such as 1932 and 1936, very few people suffer from a shortage: the area of land cultivated is adequate, presumably, and the system of farming is successful. But even in bad seasons it is not everyone who is short. Thus out of the twenty-nine recorded compounds in the Zuarungu Area, ten had sufficient home-grown food remaining from the bad harvest of 1931 (due to shortage of rain after September) until early millet was reaped in 1932. The other nineteen compounds sold livestock and bought grain, and gathered "wild" food. A comparison of statistics from these compounds is given in Table 6 below:—

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Table 6.—Comparison of statistics from ten compounds in Zuarungu Area which suffered no food shortage in 1931-32, and nineteen compounds which suffered from a shortage.

	Means from 10 compounds with no food shortage.	Means from 19 compounds short of food.
Area of land farmed per compound	8.16 acres.	5.66 acres.
Men farming	3.4	3.4
Area farmed per man	2.4 acres.	1.68 acres.
Persons living in compound ...	14.7	11.5
Area cultivated per person ...	.55 acres.	.49 acres.
Persons supported per man farming	4.3	3.4
Units of livestock (March, 1932) ... (Fowl=1 unit.)	399	136

From Table 6 it will be seen that compounds which suffered from no shortage were bigger in almost every particular than compounds which suffered (c.f. district means, Appendix II, Table 4). Observation throughout the 1932 season showed that the farms of the ten successful compounds were better cultivated, and the owners had the reputation for being good farmers. A study of yields, however, showed no appreciable difference in favour of the successful farms; but as already mentioned, 1932 was a very good season for crops in Zuarungu Area, and none of our compounds suffered from a shortage of food during the following dry season. This suggests that under the present system of farming, the major factors determining yield are those lying outside the farmers' control; the most important of these are the amount and distribution of rainfall. The effects of better farming are more marked, therefore, in a bad season than in a good one. It is probably this fact, together with a knowledge of "wild" sources of food, which has resulted in a system of farming which demands the minimum amount of labour from the farmer, and leaves the maximum to Nature; for Nature, in the shape of a "fetish", can be placated by the simple expedient of sacrifice.

Causes of Food Shortage.

Indirect Causes.

Food shortage has been ascribed to a lack of land resulting from a concentration of population, and land settlement schemes have been suggested as the solution of the problem. But the concentration of the population is responsible only indirectly, and only for as long as the system of farming remains unchanged. It

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262 178 is doubtful whether, given unlimited land, the local farmer would be prepared to devote any more time to cultivation. The inherent fertility of virgin land would be quickly dissipated if existing farming methods were followed upon it. Therefore, to provide more land without giving attention to the system of farming to be followed would merely postpone solution of the problem. The maximum distance to "bush" land from any point in North Mamprusi is about 8 miles, and it would not appear unreasonable to expect a man to move this distance voluntarily, if an adequate food supply were his greatest consideration and the acquisition of more land would ensure it. Changing economic and social conditions are bringing about the necessity for changed methods of farming. There is little doubt that development will stimulate expansion into unpopulated areas; then will be the time to foster migration, not before.

Direct Causes.

241 262 Density of population is therefore only indirectly a cause of recurrent food shortage; some of the more direct causes are:—

1. Farming practices which are not sufficiently intensive for conditons. A system of "fixed" cropping is followed and manuring is quite inadequate.

[461] 2. The innate distaste of the people for consistent labour, especially when there is a chance that it may not be essential. That is, a farmer would rather sacrifice to his ancestors for more rain—and perhaps spend the rest of the day at market (not marketing)—than to give his farm a surface cultivation to conserve the moisture already in the ground.

3. The lack of sufficient incentive, and a conservatism which makes a man prefer to cultivate a small area of impoverished land, cultivated by his ancestors, to going eight miles, or less, and having the labour of breaking up bush land (predial larceny is often offered as an excuse when bush farms are suggested).

4. Too great a reliance upon cereal crops. A bad season for cereals, or, as in recent years, depredations by locusts, means food shortage; that the season might have been a good one for root crops or legumes, does not affect the situation very much.

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5. A "vicious circle" has been created. Years of living on the margin of subsistence, have sapped the energy of the people and predisposed them to disease; at the present time, many are physically incapable of the hard work which is necessary to bring about an improvement in their conditions.

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Suggestions for the Improvement of Local Agriculture.

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From our study of the causes of food shortage it is possible to suggest ameliorative measures. The two main forms which these measures must take are:—

1. By increasing the area of land in cultivation.

2. By improving the existing system of farming.

But as we have seen above (Indirect Causes of Food Shortage) the effectiveness of the first measure depends upon the second. It is therefore upon measures for improving the existing farming system with which we are concerned at present. Some of the more important of these are considered, in tabular form, below. It should be mentioned that the improvement in water supplies, which is shortly to receive attention (14), will play an important part in the general improvement of conditions, towards which the following suggestions are made:—

1. *Growth of a greater diversity of crops.*

Too much reliance is placed upon cereals. The planting of more groundnuts and sweet potatoes; the introduction of pigeon peas, "sanzi" (an early maturing Dagomba bean), cassava, and, in some areas, yams and sesamum, would make useful additions to the present range of crops.

2. *The introduction of a rotation of crops.*

This would require study over a period of years, but if, as seems desirable, the area of legumes and roots is to be increased, some form of rotation will be essential.

3. *Attention to the increase and maintenance of soil fertility.*

Just as farmyard manure is the basis of arable farming in most other countries in the world, so might it usefully become the basis of arable farming here. "Mixed farming" provides the solution. The livestock of the country have a greater potential value as the producers of